DART AEROSPACE LTD

Work Order: 19666

Description: Fwd Crosstube

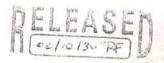
Part Number: D2889

Drawing: D2889 Rev. B; D6005 Rev. A

Page 1 of 2

01	Location	Procedure	By	Date	Qty
Step	DC	Issue Traveller	KL	03.09.19	19
1	DC	Dug not regulard RF 02.11.05	70	02.09.11	11
2	PG	Issue P/O:		2 -0 22	\ a
	1	e) Material certification required	10	0567-26	1
3	RG	Receive and inspect for transit damage	2	04-01-05	22
4	QC6	Inspect dimensions as per Dwg D6005 and check 180" length	PB	0102.11	22
5	FP	Acid etch and alodine as per QSI 005.4.1 Inside and outside of tube	2	07.02.11	22
6	LG	Bend as per Dwg D2889 and Folio FT001 Sign Page 2	(C)	04/05/13	5
7	QC6	Sign Page 2 Pose a Hackel she	b		-
8	LG	Deburr and Polish Sign Page 2  A see attack! She	do		
9	FP	Acid etch and alodine as per QSI 005 4.1 Inside and outside of tube Alodine done withing 48 hours Sign Page 2	Min	ou/os/	5
10	QC5	Inspect work to Step 9 Sign Page 2	19	salus I	75
11	ST	Identify and stock	100	04/05/17	5
12	AC	Cóst / part: 8 49.89	540	04.05-20	5
13	DC	Close W/O 8 7 8 . 6 Z Inspect Level 21	4	04.05.19	5

-	D-4a	Change	Revised By	Approved
Rev	Date		DM	
A	99.05.31	New Issue, ECN 200		J
В	00.04.11	Remove Painting step	EC	-01
C		Re-format; Added spec	KJ <del>K</del>	L W



## Dart Aerospace Ltd

Work Order:		WORK ORDER CHANGES	3				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Manuf / Design Mgr	Approval QC Inspects
3.63						Design mgr	
1 1		N .	4				

NCR 196	66	02889 V	VORK	ORDER NON-CONFORM	ANCE			
DATE	STEP	Description of NC section A	Intial	Corrective Action Section B	Sign & Date	Verification Section C	Approval Design Mgr	Approval QC Inspector
04.02.11	41	Othersiones should be actual dimer of 2.750 OD y2.741 00 of 2.000 JD of 2.000 10 0.375 Wall Wall	4	Occeptable  OD only 0003" out of Ideans  used on Extended gear  fund xtubes - QC.	6	010211	04.02.11	B. 02.11
	6	746 = 15 anong		(par DESTRUY	A.05.11	MA	H.q.vs.11	assorts/1
1 ?								- Scraf

		-50°
PAR#: NA	Fault Category: Mary (Bessy) DQA:	Date: 0405-19
	QA: N/C Closed:	Date:

NOTE: Date & initial all entries H:Admin-QA\lSO\forms\w/oncB.doc

JART AEROSPACE LTD	Work Order:	19666
Description: Fwd Crosstube	Part Number:	D2889
Drawing: D2889 Rev. B; D6005 Rev. A	Qty:	19
Diaming.		Page 2 of 2

W/O Step	Α	В	С	D	E	F	G	Н	I	J	К	L
6	8	ON ON	(A)	(P)	CHOSIN 112	Coals	3					,
7	P And	04.05.11	040511	04/05/12	165/12	04/05/13						
8	2 To	ph p	m3 oulor/12	01/2/12	04/6/13	PD 040513						
9	V	The state of the s	2 04105-14	MOSIM	04.05.14	20514	R					
10		Bouse	B	10000	15	Barosti						





Uelzener Weg 36 - 59425 Unna

# Abnahmeprüfbescheinigung 3.1 B - EN 10204

Inspection Certificate 3.1 B - EN 10204 | Certificat de Reception 3.1 B - EN 10204

Kunde: Client:

Dart Aerospace Ltd.

Zeugnisnummer:

Cert No.: / No. du certificat:

1270 Aberdeen Street

pcs.

Bestellnummer:

2005668

K6A1K7

Hawkesbury, ON Canada Order No. / No. de commande

Product / Produit:

Produkt:

Tubes seamless extruded

Auftrag: Our Reference/Notre Reference:

6438/1

Spezifikation:

QQA 200/11e, Tol. Acc to ASTM B 210

Specification:

Werkstoff:

7075

Zustand:

T 6511

Alloy/Alliage: Abmessung

x 50,790 mm x 9,530 mm

Temper/Etat

Size / Dimension

Article D6005-180 2.750" x 0.375"

x 4572,00 mm

Kennzeichnung Marking/Marquage: Cert No,405/03-AWU-7075-T6511-Cast No.1049-QQA-200/11E-2.750"OD X0.375"Wall-Heat No.2974-Lot6438-1-1-

P.O.2005668

69,850 mm

Lieferung:

lbs

Delivered Material / Matérial délivre:

22 1120

1 Ch	emis	che A	nalyse	2	Chen	nical Ar	nalysis	/ analy	se chii	mique				
1. 0,,,	0,,,,0	Si	Fe	Cu	Mn	Mg	Cr	Zn	TI	Pb	Zr	Bi	Sn	Ni
Charge/	min.			1,2		2,1	0,18	5,1						
Cast No.	max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
1049/03		0,124	0,239	1,361	0,057	2,372	0,192	5,683	0,037	0,004	0,0153	0,0001	0,0013	0,0030

Hydrogen content:

0,13

ccm/100 g Al

Elemente ohne Angabe < 0,01 % / Elements without indication < 0,01 %

Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) Ksi	yield (Rp0,2) Ksi	elongation 2" %	elongation A %	Hardness HB	
min. max.	77,0	66,0				
1 2	84,825 86,275	78,155 80,040	9,0 8,0		146 157	

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results: Resultats:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Nous confirmons que la livraison a été controlée et correspond avec les conventions faites à la réception de la commande



Aluminiumwerk Unna AG \* Uelzener Weg 36 \* D-59425 Unna

Dart Aerospace Ltd. 1270 Aberdeen Street CDN Hawkesbury, ONT, K6A1K7 Aluminiumwerk Unna AG Uelzener Weg 36 - D-59425 Unna Postfach 11 46 · D-59401 fon +49 (0) 23 03-206 - 0

fax +49 (0) 23 03-206-116 info@alu-unna.de www.alu-unna.de

page:

date: customer 28.11.2003 40980

#### delivery note

#### 7620

your PO dated:

22.09.2003

contact:

Petra Eisenblätter

your PO No .:

2005668

Tel .:

+(303) 755 5672 +(303) 755 5936

AWU PO:

6438

Fax:

representative: CLAUS J. BETTER

CARRIER:

Senator

Your VAT No.:

AWU VAT No .:

DE177869055

We supply acc. to our delivery terms and conditions:

quantity unit net kgs item

001

22,000

AWU article: 16538 / Customer article: D6005-180 2.750 x 0.375 x 180

/Tariff no. 76082091

product: TUBES / seamless extruded / EN AW-7075 / round

condition: T 6511 / QQA 200/11E

outer diameter:

2,750 INCH Tol.

-0,012 +0,012

tol.for mean OD inner diameter:

2,000 INCH

-0,006

wall thickness: fixed length

0,375 INCH Tol. 180,000 INCH Tol. +0,037 -0,037 +0,125

+0,006

test report acc. to EN 10204/3.1B / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +10 % -10 %

2.750" OD 0.375" Wall, 180" lengths

Part Number D6005-180 crosstube

Surface Finish max. RMS 25

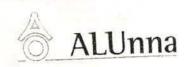
Tolerances per ASTM B210

Straightness 0.010" deviation /12" length

Outside surface: max. defects up to 0.005" (longitudinally)

Min. ultimate tensile strength 77 ksi

Commerzbank AG, Unna Konto-Nr. 102 56 00 - BLZ 443 400 37 S.W.I.F.T. - Code: COBADE FF 443 IBAN: 90 4434 0037 01025600 00



Aluminiumwerk Unna AG · Uelzener Weg 36 · D-59425 Unna

Dart Aerospace Ltd. 1270 Aberdeen Street CDN Hawkesbury, ONT, K6A1K7 Aluminiumwerk Unna AG Uelzener Weg 36 · D-59425 Unna Postfach 11 46 - D-59401 fon +49 (0) 23 03-206 - 0

fax +49 (0) 23 03-206-116 info@alu-unna.de www.alu-unna.de

page: date: 28.11.2003

customer

40980

### delivery note

7620

your PO dated:

22.09.2003

contact:

Petra Eisenblätter

your PO No.: AWU PO:

2005668 6438

Tel.:

+(303) 755 5672

Fax:

+(303) 755 5936

representative: CLAUS J. BETTER

CARRIER:

Senator

Your VAT No .:

AWU VAT No .:

DE177869055

We supply acc. to our delivery terms and conditions:

quantity unit net kgs item

001

22,000

AWU article: 16538 / Customer article: D6005-180 2.750 x 0.375 x 180

/Tariff no. 76082091

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condition: T 6511 / QQA 200/11E

outer diameter:

2,750 INCH Tol.

-0,012 +0,012 -0,006 +0,006

tol.for mean OD inner diameter:

2,000 INCH

wall thickness:

0,375 INCH Tol.

-0,037 +0,037

fixed length

180,000 INCH Tol.

+0,125

test report acc. to EN 10204/3.1B / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +10 % -10 %

2.750" OD 0.375" Wall, 180" lengths

Part Number D6005-180 crosstube

Surface Finish max. RMS 25 Tolerances per ASTM B210

Straightness 0.010" deviation /12" length

Outside surface: max. defects up to 0.005" (longitudinally)

Min. ultimate tensile strength 77 ksi